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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/963,774	09/26/2001	Jeffrey W. Nichols	EPH / 33	1743
26875	7590	05/21/2004	EXAMINER	
WOOD, HERRON & EVANS, LLP 2700 CAREW TOWER 441 VINE STREET CINCINNATI, OH 45202			THOMPSON, KENNETH L	
			ART UNIT	PAPER NUMBER
			3672	

DATE MAILED: 05/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/963,774

Applicant(s)

NICHOLS, JEFFREY W.

Examiner

Kenn Thompson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-18,30-32 and 34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-18,30-32 and 34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

Claims 1, 3-18, 30-32 and 34 are objected to because of the following informalities:

Regarding claims 1, 10, 30 and 32 the phrase "preferentially" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claims 3-9, 11-18, 31, 32 and 34 depend from claims 1, 10, 30 and 32 and are likewise objected to.

Appropriate correction is required.

Allowable Subject Matter

The indicated allowability of claims 1, 3-18 and 30-34 is withdrawn.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-6, 8, 9, 30 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wells, U.S. 3,320,665 in view of Hundt et al., U.S. 4,603,997.

Regarding claims 1 and 30, Wells discloses in figures 1-3 (see attachment) a torsional vibration damper for a rotatable shaft. Wells discloses an annular inertia ring (20), a polymer

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body (15) disposed radially inward from the inertia ring (15) including a radially extending wall having opposed annular surfaces and a service port (X) extending through the radially-extending wall between the opposed annular surfaces; and an insert (10) disposed radially inward from the body, the insert formed of a structurally rigid material and mountable to the rotatable shaft, the insert including a support flange (14) projecting radially outward into the body and positioned radially from the service port (X). Wells discloses the insert including a plurality of support flanges (14) projecting radially outward into the polymer body, adjacent ones of the plurality of support flanges having an angular spacing about a circumference of the insert, wherein an axial force applied to the support flange is transferred to the insert such that the body remains substantially stress-free. Wells does not disclose an elastomeric layer disposed radially inward from the inertia ring. Hundt et al. teaches in figure 6 use of an elastomeric layer (16) disposed radially inward from the inertia ring (18) to allow the more flexible elastomeric layer to control rotational fluctuations of the inertia ring and the more rigid polymer body to support the damper with respect to the drive. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the polymer body disclosed by Wells to have an elastomeric layer disposed radially inward from the inertia ring as taught by Hundt et al. to allow the more flexible elastomeric layer to control rotational fluctuations of the inertia ring and the more rigid polymer body to support the damper with respect to the drive. The use of elastomer and polymer in vibration dampers is well known in the art.

As to claim 3, Wells discloses the support flange further comprises a seating surface (axial edges of 10) that is substantially coextensive with one of the first and the second annular surfaces of the polymer body.

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As to claim 4, Wells discloses the seating surface is free of a polymer material forming the polymer body.

As to claim 5, Wells discloses seating surface is at least partially encapsulated (entire insert including axial edge is encapsulated) in a polymer material forming the polymer body.

As to claims 6, and 31, Wells discloses the polymer body comprising a glass reinforced polyamide (Wells, col. 2, lines 32).

As to claim 8, Wells discloses the structurally rigid material (of 10) is a metal.

As to claim 9, Wells discloses the annular inertia ring (20) including a circumferential flange (25) that extends radially inward into the elastomeric layer.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wells, U.S. 3,320,665.

As to claim 7, Wells discloses all the claimed subject matter except for the polymer material being mechanically stable at a temperature of at least about 230°F. However it would have been obvious to one having ordinary skill in the art at the time of the invention to arrange for the polymer material disclose by Wells to be mechanically stable at a temperature of 230 degrees F, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hundt et al., U.S. 4,603,997.

As to claim 16, Hundt et al. discloses all the claimed subject matter except for the polymer material being mechanically stable at a temperature of at least about 230°F. However it

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would have been obvious to one having ordinary skill in the art at the time of the invention to arrange for the polymer material disclose by Wells to be mechanically stable at a temperature of 230 degrees F, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 10-15, 17, 18, 32 and 34 rejected under 35 U.S.C. 102(b) as being anticipated by Hundt et al., U.S. 4,603,997.

As to claim 10, Hundt et al. discloses in figures 1-7 an annular inertia ring (18) an elastomeric layer (16) disposed radially inward from the inertia ring; a polymer body (14) disposed radially inward from the elastomeric layer, and an insert (36) disposed radially inward from the polymer body, the insert formed of a structurally rigid material and mountable to the rotatable shaft, the insert including a plurality of support flanges (40) projecting radially outward into the polymer body, adjacent ones of the plurality of support flanges having an angular spacing about a circumference of the insert, wherein an axial force applied to at least some of the plurality of support flanges is transferred to the insert such that the polymer body remains substantially stress-free.

As to claim 11, Hundt et al. discloses and a plurality of service ports (34) extending through the annular wall between the first and the second surfaces, the plurality of service ports being angularly spaced about a circumference of the annular wall such that each of the plurality of support flanges (40) aligned radially with one of the plurality of service ports.

As to claim 12, Hundt et al. discloses each of the plurality of support flanges further comprises a seating surface (42) that is substantially coextensive with one of the first and the second surfaces of the polymer body.

As to claim 13, Hundt et al. discloses the seating surface of each of the plurality of support flanges is free of a polymer material forming the polymer body.

As to claim 14, Hundt et al. discloses the seating surface of each of the plurality of support flanges is at least partially encapsulated in a polymer material forming the polymer body.

As to claims 15 and 34, Hundt et al. discloses the polymer body comprises a glass reinforced polyamide (col. 3, lines 24-30).

As to claim 17, Hundt et al. discloses the structurally rigid material is a metal.

As to claim 18, Hundt et al. discloses the annular inertia ring including a circumferential flange (40) that extends radially inward into the elastomeric layer

Regarding claim 32, Hundt et al. discloses an annular polymer body (14) having a central bore and a plurality of service ports (34); and an insert (34b) disposed in the central bore and formed of a structurally rigid material, the insert including a plurality of support flanges (40) projecting radially outward into the polymer body, adjacent ones of the plurality of support flanges having an angular spacing about a circumference of the insert, and each of said

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plurality of support flanges aligned radially with a corresponding one of said plurality of service ports for permitting access thereto, wherein an axial force applied to at least one of the plurality of support flanges, when the insert is mounted to the rotatable shaft, is preferentially transferred to the insert so that the polymer body remains substantially stress-free.

Response to Arguments

Applicant's arguments filed 17 February 2004 have been fully considered but they are not persuasive.

Applicant argues claim 34 is patentable because Wells discloses a polymer body for a hub that is formed from a thermoset resinous binder and not a polyamide, a thermoplastic resin. However Wells discloses in column 2 line 20 the web is plastic.

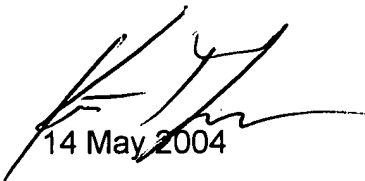
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenn Thompson whose telephone number is 703 306-5760. The examiner can normally be reached on 7:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David J Bagnell can be reached on 703 308-2151. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



14 May 2004